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10/529,360	03/25/2005	Jaap Andre Haitzma	2167.006US1	6172
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,360

Applicant(s)

HAITSMA, JAAP ANDRE

Examiner

DARREN SCHWARTZ

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
Paper No(s)/Mail Date 06-11-08 09-15-08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-12 are pending.

Response to Arguments

Applicant's arguments, see REMARKS, filed 23 September 2008, with respect to the rejection(s) of claim(s) 1-7 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made, see below.

Applicant indicates in REMARKS, page 5, that "the amendments and the new claims do not necessitate a new search."

The applicant and applicant's representative are reminded the "first search should be such that the examiner need not ordinarily make a second search of the prior art, unless necessitated by amendments to the claims by the applicant in the first reply, except to check to determine whether any reference which would appear to be substantially more pertinent than the prior art cited in the first Office action has become available subsequent to the initial prior art search. The first search should cover the invention as described and claimed, including the inventive concepts toward which the claims appear to be directed. It should not be extended merely to add immaterial variants" (see MPEP 904).

The fact that the Examiner may not have specifically responded to any particular arguments made by Applicant and Applicant's Representative, should not be construed as indicating Examiner's agreement therewith.

Claim Objections

Claims 7 and 8 are objected to because of the following informalities: Claim 7 immediately recites "machine readable medium" and should be corrected to recite either "A machine readable medium" or "The machine readable medium." Claim 8 recites "An system" and should be corrected to read "A system." Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding amended claim 7 recites "machine readable medium tangibly storing instruction data."

It is suggested that the applicant to particularly point out where in the specification support can be found for the amended limitation.

Claims not specifically addressed above are rejected by virtue of the dependence on a claim that has been rejected.

Regardless of the aforementioned issues, the examiner has considered all the limitations of claim 7 as presented in the amendment filed 23 September 2008.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 7 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 7 is directed to software, *per se*. The body of the claim is directed to the logic steps of the program itself, that is, descriptive material *per se*, non-functional descriptive material, and is not statutory because it is not a physical "thing" nor a statutory process. Such claims do not define any structural and functional interrelationships between the computer program and other claimed aspects of the invention which permit the computer program's functionality to be realized. Since a computer program is merely a set of instructions capable of being executed by a computer, the program itself is not a process without the computer-readable medium needed to realize the computer program's functionality. In contrast, a claimed computer-readable medium encoded with a computer program defines structural and functional interrelationships between the computer program and the medium which permit the computer program's functionality to be realized, and is thus statutory. *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760. *In re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). See MPEP § 2106(IV)(B)(1)(a).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al (U.S. Pat Pub 2003/0086341 A1), hereinafter referred to as Wells, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok.

Re claim 1: Wells teaches a method of extracting a fingerprint from a media signal (¶¶66; ¶83), the method comprising:

extracting a fingerprint from a media signal a sequence of samples of a given perceptual property of the signal (¶¶15; ¶253; ¶255; ¶261), and deriving from said sequence a binary sequence constituting said fingerprint (¶¶91; ¶288; claim 29);

Seok teaches:

subjecting the sequence of property samples to an auto-correlation function to obtain a sequence of auto-correlation values (Fig 3, elt 203: ¶31);

comparing said auto-correlation values with respective thresholds (Fig 3, elt 204: ¶32; *"Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205"*);

representing the results of said comparisons by respective bits of the fingerprint (Fig 3, elts 204, 205 & "COPYRIGHT INFORMATION;" ¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

Re claim 6: Wells teaches an apparatus for extracting a fingerprint from a media signal (¶¶66; ¶¶83), the method comprising:

Means for deriving from said media signal a sequence of samples of a given perceptual property of the signal (¶¶15; ¶¶253; ¶¶255; ¶¶261),

Seok teaches:

subjecting the sequence of property samples to an auto-correlation function to obtain a sequence of auto-correlation values (Fig 3, elt 203: ¶¶31);

comparing said auto-correlation values with respective thresholds (Fig 3, elt 204: ¶¶32; *"Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205"*);

representing the results of said comparisons by respective bits of the fingerprint (Fig 3, elts 204, 205 & "COPYRIGHT INFORMATION;" ¶¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

Re claim 7: Claim 7 is rejected under similar grounds as those provided for claim 1.

Re claim 8: Wells teaches a system for extracting a fingerprint from a media signal, the system comprising:

a sampler to extract from said media signal a sequence of samples of a given perceptual property of the signal (§115; ¶253; ¶255; ¶261),

Seok teaches:

an auto-correlator to subject the sequence of property samples to an auto-correlation function to obtain a sequence of auto-correlation values (Fig 3, elt 203: ¶31); and a comparator to: compare said auto-correlation values with respective thresholds (Fig 3, elt 204: ¶32; *"Thereafter, if the sign is positive, an output value becomes 1 and if the sign is negative, the output value becomes 0. Subsequently, the resultant out value, i.e. 0 or 1, is inputted into the error correction decoder 205"*), and represent the results of said comparisons by respective bits of the fingerprint (Fig 3, elts 204, 205 & "COPYRIGHT INFORMATION;" ¶32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells with the teachings of Seok, for the purpose of embedding a watermark that does not degrade nor deteriorate digital audio data.

7. Claims 2, 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al (U.S. Pat Pub 2003/0086341 A1), hereinafter referred to as Wells, in

view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Hannigan et al. (U.S. Pat 6674876 B1), hereinafter referred to as Hannigan.

Re claim 2: The combination of Wells and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hannigan teach said step of subjecting the sequence of property samples to an auto-correlation function comprises correlating a sub-sequence of property samples with the complete sequence of property samples (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 3: The combination of Wells and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hannigan teach said step of subjecting the sequence of property samples to an auto-correlation function further includes down-sampling the sequence of auto-correlation values to obtain a desired number of auto-correlation values (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Seok with the

teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 9: The combination of Wells and Seok teaches all the limitations of claim 8 as previously discussed.

However, Hannigan teach the auto-correlator is to correlate a sub-sequence of property samples with the complete sequence of property samples (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

Re claim 10: The combination of Wells and Seok teaches all the limitations of claim 8 as previously discussed.

However, Hannigan teach the auto-correlator is to down-sample the sequence of auto-correlation values to obtain a desired number of auto-correlation values (Hannigan: col 9, lines 28-37; col 10, lines 38-43; col 14, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Seok with the teachings of Hannigan, for the purpose of generating a watermark that is more robust and less perceptual.

8. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al (U.S. Pat Pub 2003/0086341 A1), hereinafter referred to as Wells, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Kenyon et al (U.S. Pat Pub 2002/0023020 A1), hereinafter referred to as Kenyon.

Re claim 4: The combination of Wells and Seok teaches all the limitations of claim 1 as previously discussed.

However, Kenyon teaches said step of deriving from said media signal a sequence of perceptual property values comprises dividing an audio signal into sub-bands and computing the energies of said audio sub-bands (¶41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Wells and Seok references to divide an audio signal into sub-bands and compute the energies of the audio sub-bands, as taught by Kenyon, for the purpose of easily recognizing media stored in a database (see Kenyon: ¶39).

Re claim 11: The combination of Wells and Seok teaches all the limitations of claim 8 as previously discussed.

However, Kenyon teaches the sampler is to divide an audio signal into sub-bands and computing the energies of said audio sub-bands (¶41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Wells and Seok references to divide an audio signal into sub-bands and compute the energies of the audio sub-

bands, as taught by Kenyon, for the purpose of easily recognizing media stored in a database (see Kenyon: ¶39).

9. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells, in view of Seok et al (U.S. Pat Pub 2002/0078359 A1), hereinafter referred to as Seok, in further view of Hobson et al (U.S. Pat 6633653 B1), hereinafter referred to as Hobson.

Re claim 5: The combination of Wells and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hobson teaches said step of deriving from said media signal a sequence of perceptual properties comprises dividing an image into blocks and computing the luminances of said image blocks (col 2, line 64 - col 3, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Wells and Seok references to divide an image into blocks and compute the luminances of said image blocks, as taught by Hobson, for the purpose of providing image watermarking and easy recovery of watermarked images.

Re claim 12: The combination of Wells and Seok teaches all the limitations of claim 1 as previously discussed.

However, Hobson teaches the sampler is to divide an image into blocks and computing the luminances of said image blocks (col 2, line 64 - col 3, line 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Wells and Seok references to divide an image into blocks and compute the luminances of said image blocks, as taught by Hobson, for the purpose of providing image watermarking and easy recovery of watermarked images.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARREN SCHWARTZ whose telephone number is (571)270-3850. The examiner can normally be reached on 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S./
Examiner, Art Unit 2135
/KimYen Vu/
Supervisory Patent Examiner, Art Unit 2435